

FIGURE 1A

ATGGAAAAACTCCATGGCATGTGTCTGCCCATCCAGACATCCTCTCCT  
TGGAGAACCGGTGCCTGGCTATGCTCCCTGACTTACAGCCCTGGAGAA  
ACTACATCAGCATGTATCTACCCACTCAGATATCCTCTCCTTGAAGAAC  
CAGTGCCTAGCCACGCTCCTGACCTGAAGACCATGGAAAAACCACATG  
GATATGTGTCTGCCACCCAGACATCCTCTCCTGGAGAACCGAGTCCT  
GGCCACACTTCTGACCTGAAGACCATGGAGAACCATGGACATGTT  
TCTGCCACCCAGACATCCTCTCCTGGAGAACCGGTGCCTGCCACCC  
TCCCTAGTCTAAAGAGCACTGTGTCTGCCAGCCCCTGTTCCAGAGTCT  
ACAGATATCTCACATGACGCAAGCTGATTGTACCGTGTGAACAAACAGC  
AATTGCCTGCTCTTGAGCCTCCAAGTTGGAGGGCTCAGCATTTCTCTA  
AGGGACTAGACCTTCAACCTGCCCTATGCCCTGAAATCCATCTCTGC  
CACAGAGACAGCTCAGGAAGCAACTTGGGTCGTTGGTTGATTGAGAA  
GAGAAGAAAGGGCAGAGACCCAAATGCCCTCTTATAGTCTGAGCTTGG  
GAGAGGAGGAGGAGGTGGAGGATCTGCCGTGAAGCTCACCTCTGGAGA  
CTCTGAATCTCATCCAGAGCCTACTGACCATGTCCTCAGGAAAAGAAG  
ATGGCTCTACTGAGCTTGCTGTGCTCTACTCTGGTCTCAGAAGTAAACA  
TGAACAATACATCTGACCCCCACCCCTGGCTGCCATTGGTAAATCTGTCG  
TGAACCTGCCCTCTGGAGCCTGAGTTATCCTCAAGGCATCTTGTAT  
GCCAGGCAGCAGCTGAACGTCCGGAATGTGGCCAATAACATCTTGGCCA

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**FIGURE 1B**

TTGCTGCTTCTTGCCGGCGTCGCCCCCCACCTGCGACGATATTCTG  
TGCCATTGTCCAGCTGCCTCTGACTGGATCCAGGTGGCTGAGCTTAC  
CAGAGCCTGGCTGAGGGAGATAAGAATAAGCTGGTGCCCCTGCCGCCT  
GTCTCCGTACTGCCATGACGGACAAATTGCCAGTTGACGAGTACCA  
GCTGGCTAAGTACAACCCTCGGAAGCACCAGGCCAAGAGACACCCCCGC  
CGGCCACCCCGCTCTCCAGGGATGGAGCCTCCATTTCACAGATGTT  
TTCCAAGGTACATAGGGTTCTCAGAGAAGAGCAGAGAAAGTTGAGAA  
GGCCGGTGATACAGTGTCAAGAGAAAAAGAATCCTCCAAGGTTCACCTG  
AAGAAGCTGGTTAGCGACTGCACATCCACAAGCCTGCCAGCACGTT  
AAGCCCTGCTGGTTACAGATAACCCCTCCAACCTACAGCTCTTCTCG  
AAGTCGCCCTCCTGGCCTTGGGATTCTAGCAGAGCTGGGAAGAGGATG  
AAGCTGTCTAGGCCAGAGACCTGGGAGCGGGAGCTGAGCCTACGGGGGA  
ACAAAGCGTCGGTCTGGGAGGAACTCATTGAAAATGGGAAGCTTCCCTT  
CATGGCCATGCTCGAACCTGTGCAACCTGCTGCCAGGGTTGGAATCAGT  
TCCCGCCACCATGAGCTCATTCTCCAGAGACTCCAGCATGGGAAGTCGG  
TGATCCACAGTCGGCAGTTCCATTCAAGATTCTAACGCCATGATGC  
CATTGATGCCCTCGAGGCTCAACTCAGAAATCAAGCATTGCCCTTCCT  
TCGAATATAACACTGATGAGGCGGATACTAACTAGAAATGAAAAGAACCC  
GTCCCAGGGCGGAGGTTCTTGCCACCTAACGCGTCAGCAGCTCGTAT

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**FIGURE 1C**

GGCAATGAGGATACCTGTGTTATGAGCAGCTCAAGAGGGAGAAGCTG  
AGAGTACACAAGGCCAGACAGTGGAAATATGATGGTGAGATGCTGAACA  
GGTACCGACAGGCCCTAGAGACAGCTGTGAACCTCTCTGTGAAGCACAG  
CCTGCCCTGCTGCCAGGCCGCACTGTCTTGGTCTATCTGACAGATGCT  
AATGCAGACAGGCTCTGTCCAAAGAGCAACCCACAAGGGCCCCGCTGA  
ACTATGCACTGCTGTTGATTGGGATGATGATCACGAGGGCGGAGCAGGT  
GGACGTCGTGCTGTGGAGGTGACACTCTGAAGACTGCAGTGCTTAAG  
GCAGAAGAAGGCATCCTGAAGACTGCCATCAAGCTCCAGGCTCAAGTCC  
AGGAGTTGATGAAAATGATGGATGGTCCCTGAATACTTTGGAAATA  
CCTGCTGTCTGGCTGCCAAAGGGTCCTGTGGACAGGGTCATCCTC  
CTTGGCCAAAGCATGGATGATGGAATGATAAATGTGGCCAAACAGCTT  
ACTGGCAGCGTGTGAATTCCAAGTGCCTCTTGGTATCCTCCTAAG  
AAGGGTACAATACTGTCAACAGATTGAATCCAATGATGTGACACTC  
TCAGGCTGTACTGATGCGATACTGAAGTTCATGCGAGCATGGGCCT  
CCCATCTTCTGGAACATGTGGCCAAATGGACAAATATTCAAGATTCC  
ACCACCCCCAGGAAAGACAGGGTCCAGTCTCCGGCCACTGGAAGAG  
GACACTCCAAGCCCCCTGGCTCCTGTTCCCAGCAAGGATGGCGCAGCA  
TCCGGCTTTCATTCATCCACTTCCGAGACATGCACGGGGAGCGGGA  
CCTGCTGCTGAGGTCTGTGCTGCCAGCACTGCAGGCCGAGCGGCCCT

**FIGURE 1D**

CACCGTATCAGCCTCACGGAATCGACCTCCGCTGGGGCGTCACTGAGG  
AGGAGACCCGTAGGAACAGACAACCTGGAAGTGTGCCTGGGGAGGTGGA  
GAACGCACAGCTGTTGTGGGATTCTGGCTCCGTTATGGATACATT  
CCCCCCAGCTACAACCTCCTGACCACACTCCACTGGGCCAGC  
AGTACCCTTCAGGGCGCTCTGTGACAGAGATGGAGGTGATGCAGTCCT  
GAACCGGAACCAACGTCTGCAGCCCTCTGCCAAGCTCTCATCTACTTC  
CGGGATTCCAGCTTCCTCAGCTCTGTGCCAGATGCCTGGAAATCTGACT  
TTGTTCTGAGTCTGAAGAGGCCGCATGTCGGATCTCAGAACTGAAGAG  
CTACCTAAGCAGACAGAAAGGGATAACCTGCCAGATAACCCCTGTGAG  
TGGGGGGGTGTCAGCTGGCCAGCTGGCCGGCCCTATGTTGGCGGGCTGGAGGAGT  
TTGGGCAGTTGGTTCTGCAGGATGTATGGAATATGATCCAGAAAGCTCTA  
CCTGCAGCCTGGGCCCTGCTGGAGCAGCCAGTGTCCATCCCAGACGAT  
GACTTGGTCCAGGCCACCTCCAGCAGCTGCAGAAGCCACCGAGTCCTG  
CCCGGCCACGCCTCTTCAGGACACAGTGCAACAGCTGATGCTGCCCA  
CGGAAGGCTGAGCCTGGTGACGGGCAGTCAGGACAGGGCAAGACAGCC  
TTCCTGGCATCTTGTGTCAGCCCTGCAGGCTCCTGATGGGCCAAGG  
TGGCACCATTAGTCTTCTTCCACTTTCTGGGCTCGCCTGACCAGGG  
TCTTGCCCTCACTCTGCTCAGACGCCTCTGTACCTATCTGCGTGGCAA  
CTAAAAGAGCCAGGTGCCCTCCCCAGCACCTACCGAAGCCTGGTGTGGG

FIGURE 1E

AGCTGCAGCAGAGGCTGCTGCCAAGTCTGCTGAGTCCTGCATCCTGG  
CCAGACCCAGGTCTGATCATCGATGGGGCTGATAGGTTAGTGGACCAG  
AATGGGCAGCTGATTCAGACTGGATCCAAAGAAGCTTCCCCGGTGTG  
TACACCTGGTGCTGAGTGTCTAGTGATGCAGGCCTAGGGGAGACCCCT  
TGAGCAGAGCCAGGGTGCCACGTGCTGGCCTGGGCCTCTGGAGGCC  
TCTGCTCGGGCCCGGCTGGTGAGAGAGGGAGCTGGCCCTGTACGGGAAGC  
GGCTGGAGGAGTCACCATTAAACAACCAGATGCGACTGCTGCTGGTGA  
GCGGGAATCAGGCCGGCGCTCACCTGCGCTGGTCACCGATCACCTG  
AGGCTTTCACGCTGTATGAGCAGGTGTCTGAGAGACTCCGGACCCTGC  
CTGCCACTGTCCCCCTGCTGCTGCAGCACATCCTGAGCACACTGGAGAA  
GGAGCACGGCCTGATGTCCTCCCCAGGCCTGACTGCCCTAGAAGTC  
ACACGGAGTGGTTGACTGTGGACCAGCTGCACGGAGTGCTGAGTGTGT  
GGCGGACACTACCGAAGGGGACTAAGAGCTGGGAAGAACAGCAGTGGCTGC  
TGGTAACAGTGGAGACCCCTACCCATGGGCCGTTGCCTGCCTCGTC  
CAGAGTCTGCGCAGTTGCTAGGGGAGGGCCCTGGAGCGCCCTGGTG  
CCCGGCTGTGCCTCCCTGATGGGCCCTGAGAACAGCAGCTAACGTTG  
CTATGGGAAGAGGCCAGGGCTAGAGGACACGGCACACATCCTCATTGCA  
GCTCAGCTCTGGAAGACATGTGACGCTGATGCCTCAGGCACCTCCGAA  
GTTGCCCTCCTGAGGCTCTGGAGACCTGCCTTACCACTGCTCCAGAG

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**FIGURE 1F**

CGGGAACCGTGGACTTCTTCGAAGTCCTTACCAACCTCCATGTGGTG  
GCTGCACACTTGGATTGGGTCTGGTCTCGGCTCTGGAGGCCATG  
CCCTCTATGCTTCTTCAGTCCCCAAAGAGGAACAAAAGCTCCCCGAGGC  
TGACGTTGCAGTGTTCGCACCTTCCTGAGGCAGCAGGCTTCAATCCTC  
AGCCAGTACCCCCGGCTCCTGCCCCAGCAGGCAGCCAACCAGCCCTGG  
ACTCACCTCTTGCCACCAAGCCTCGCTGCTCTCCGGAGATGGCACCT  
CCAACACACACTACGATGGCTTAATAAACCCGGACCATGAAAAATCAG  
CAAAGCTCCAGCCTGTCTCTGGCAGTTCCATCCCCTACTGCTGTGG  
CCTTCTCCACCAATGGCAAAGAGCAGCTGTGGCACTGCCAATGGGAC  
AGTTTACCTGTTGGACCTGAGAACTTGGCAGGAGGAGAAGTCTGTGGTG  
AGTGGCTGTGATGGAATCTCTGCTTGTTCCTCTCCGATGATAACAC  
TCTTTCTTACTGCCTCGACGGCTCCTGGAGCTCTGGACCTGCAGCA  
TGGTTGTCGGGTGCTGCAGACTAAGGCTCACCAAGTACCAAAATCACTGGC  
TGCTGCCTGAGCCCAGACTGCCGGCTGCTAGCCACCGTGTGCTGGAG  
GATGCCTAAAGCTGTGGACACAGTCCGTGGCAGCTGGCCTTCCAGCA  
CACCTACCCCAAGTCCCTGAACGTGTGCTTCCACCCAGAGGGGGCAG  
GTAATAGCCACAGGCAGCTGGCAGCATCAGCTTCCAGGTGG  
ATGGGCTCAAAGTCACCAAGGACCTGGGGGCACCCGGAGCCTCTATCCG  
TACCTTGGCCTCAATGTGCCTGGGGGGTTGTGGCTGTGGCCGGCTG

**FIGURE 1G**

GACAGTATGGTGGAGCTGTGGCCTGGCGAGAAGGGGCACGGCTGGCTG  
CCTTCCCTGCCACCATGGCTTGCTGCTGCGCTTTCCTGCATGC  
GGGTTGCCAGTTACTGACGGCTGGAGAGGATGGCAAGGTTAGGTGTGG  
TCAGGGTCTCTGGTCGGCCCCGTGGCACCTGGTTCCCTTCTCT  
CTCCTGCCCTCTGTGGCACTCAGCCCAGATGGTATCGGGTGGCTGT  
TGGATATCGAGCGGATGGCATTAGGATCTACAAAATCTTCAGGTTCC  
CAGGGGGCTCAGGGTCAGGCACTGGATGTGGCAGTGTCCGCCCTGGCCT  
GGCTAAGCCCCAAGGTATTGGTGAGTGGTGCAGAAGATGGTCCTGCA  
GGGCTGGGCACTCAAGGAATGCTCCCTCAGTCCCTGGCTCCTGTCC  
AGATTCCAGAAGCCTGTGCTAGGACTGCCACTTCCCAGGAGCTTTGG  
CTTCTGCCTCAGAGGATTTCACAGTGCAGCTGTGGCAAGGCAGCTGCT  
GACGCCACACAAGGCAGAAGACTTCCCTGTGGCACTGAGCTGCC  
GGACATGAGGGCCCTGTGAGCTGCTGTAGTTCAGCACTGATGGAGGCA  
GCCTGGCCACCGGGGGCGGGATCGGAGTCTCCTCTGCTGGACGTGAG  
GACACCCAAAACCCCTGTTGATCCACTCCTCCCTGCCTGTCACCGT  
GACTGGTCACTGGCTGTGCCTGGACCAAAGATAACCTACTGATATCCT  
GCTCCAGTGATGGCTCTGTGGGCTCTGGACCCAGAGTCAGGACAGCG  
GCTTGGTCAGTCCTGGTCATCAGAGTGCTGTGAGCGCTGTGGCAGCT  
GTGGAGGAGGACGTGGTGTCTGTGAGCCGGATGGACCTTGAAAGTGT

FIGURE 1H

GGGACCATCAAGGCGTGGAGCTGACCAGCATCCCTGCTCACTCAGGACC  
CATTAGCCACTGTGCAGCTGCCATGGAGCCCCGTGCAGCTGGACAGCCT  
GGGTCAGAGCTTCTGGTGGTAACCGTCGGGCTAGATGGGCCACACGGT  
TATGGCATCCACTCTTGGTGTGCCAAACCCACACCCTCCTGGACACAG  
CGGCCAGTCCGTGCTGCTGCTGTTAGAAACCTCAGGCCTCATGCTG  
ACCGCCTCTGAGGATGGTTCTGTACGGCTCTGGCAGGTTCTAAGGAAG  
CAGATGACACATGTATAACCAAGGAGTTCTGCAGCCGTCACTGCTGTGGC  
TTGGGCACCAGATGGTCCATGGCAGTATCTGGAAATCAAGCTGGGAA  
CTAATCTTGTGGCAGGAAGCTAAGGCTGTGGCCACAGCACAGGCTCCAG  
GCCACATTGGTGCTCTGATCTGGCCTCGGCACACACCTTTTGTCCCT  
CAGTGCTGATGAGAAAATCAGCGAGTGGCAAGTGAAACTGCGGAAGGGT  
TCGGCACCCGGAAATTGAGTCTTCACCTGAACCGAATTCTACAGGAGG  
ACTTAGGGGTGCTGACAAGTCTGGATTGGCTCCTGATGGTCACTTCT  
CATCTTGGCAAAGCAGATTGAAGTTACTTGCATGAAGCCAGGGAT  
GCTCCATCTGAAATCTGGAGCAGCTATACAGAAAATCCTATGATATTGT  
CCACCCACAAGGAGTATGGCATATTGTCCTGCAGCCAAGGATCCTGG  
AGTTCTTCTTGAGGCAAAAGGAATCAGGAGAGTTGAAGAGAGG  
CTGAACCTTGATATAAACTTAGAGAATCCTAGTAGGACCCATAATATCGA  
TAACTCAAGCAAACCTGAATCTGAGTCCTCATTGTGTGCCAGCTC

**FIGURE 1I**

TGATGGGATCCTATGGAACCTGGCCAAATGCAGCCCAGAAGGAGAATGG  
ACCACAGGTAACATGTGGCAGAAAAAAGCAAACACTCCAGAAACCCAAA  
CTCCAGGGACAGACCCATCTACCTGCAGGGATCTGATGCCAGCATGGA  
TAGTGATGCCAGCATGGATAGTGAGCCAACACCCACATCTAAAGACACGG  
CAGCGTAGAAAGATTCACTCGGGCTCTGTCACAGCCCTCCATGTGCTAC  
CTGAGTTGCTGGTGACAGCTTCGAAGGACAGAGATGTTAAGCTATGGGA  
GAGACCCAGTATGCAGCTGCTGGGCTGGCGCTAACTCCACCCCTGCAGCTGCCG  
AGCTGCCTGGAACCTTGGCTGGCGCTAACTCCACCCCTGCAGCTGCCG  
TGGGAGACGTGCAGGGCAATGTGTACTTCTGAATTGGGAA

**FIGURE 2A**

ATGGAGAAGCTCTGTGGCATGTGCCTGGCATTAGACATCCTCTCCT  
TGAAGAACCGGTGCCTGACCATGCTCCCTGACCTCCAGCCCCTGGAGAA  
AATACATGGACATAGATCTGTCCACTCAGACATCCTTCCTTGGAGAAC  
CAGTGTCTGACCATGCTCTTGACCTCCAGCCCACGGAGAGAATAGATG  
GGCATATATCTGTCCACCCAGACATCCTCTCCTTGGAGAAATCGGTGCCT  
GACCATGCTCCCTGACCTCCAGCCTCTGGAGAAGCTATGTGGACATATG  
TCTAGTCATCCAGACGTCCTTCTTGGAAAACCAATGTCTAGCTACTC  
TCCCCACTGTAAAGAGCACTGCATTGACCAGCCCCTGCTCCAGGGTCT  
TCACATATCTCATACGGCACAAGCTGATCTGCATAGCCTGAAAACTAGC  
AACTGCCTGCTCCCTGAGCTCCTACCAAGAAGACTCCATGTTCTCTG  
AGGAACTAGACCTCCACCTGGACCCAGGGCCCTGAAATCCATGTCTGC  
TACAGCTCAAGTCCAGGAAGTAGCCTGGGTCAATGGTGTCTCCAAA  
GAAAAGGAATTCAAGAAGAAGAAGAAAGCACAGAAGTCCCRATGCCTTGT  
ACAGTCTAAGCTTGGAAAGAAGAAGAAGAAGTGGAGGCACCGGTCTAAACT  
CACATCTGGAGACTCTGGCTTCATCCTGAAACCACTGACCAGGTCTT  
CAGGAGAAGAAGATGGCTCTTGACCTTACTCTGCTCTGCTCTGGCCT  
CAAATGTGAATGTGAAAGATGCATCTGACCTTACCCGGGCATCCATCCT  
TGAAGTCTGTAGTGCCCTGGCCTTGGAACCGGAGTTCATCCTTAAG  
GCATCTTGTATGCTCGGCAGCAACTAACCTCCGGGACATGCCAATA

**FIGURE 2B**

CAGTTCTGGCTGTGGCTGCCCTTGCAGCCTGCCGGCCCCATGTACG  
ACGGTATTACTCCGCCATTGTTCACCTGCCTTCAGACTGGATCCAGGT  
GCCGAGTTCTACCAGAGCCTGGCAGAAGGGATGAGAAGAAGTTGGTGT  
CCCTGCCTGCCTGTCTCCGAGCTGCCATGACCGACAAATTGCCGAGTT  
TGATGAGTACCAGCTAGCTAAGTACAACCCACGGAAACATCGGTCCAAG  
AGGCAGGTCCGCCAGCCACCCGCCCTCAAAAGACAGAACGTCCATT  
CAGAGAGAGGGAAATGTTTCAAAGAGCCTTGGCCCTTAAAAATGA  
ACAGATTACGTTGAAGCAGCTTATAATGCAATGCCAGAGAAAAACAGG  
CTACCACGGTTCACTCTGAAGAAGTTGGTAGAGTATCTACATATCCACA  
AGCCTGCTCAGCACGTCCAGGCCCTGCTGGCTACAGGTACCCAGCCAC  
CCTAGAGCTTTCTCGGAGTCACCTCCCTGGCCGTGGAGTCTAGC  
AGAGCTGGTCAGCGGATGAAGCTCCGAAGGCCAGAGACCTGGAGCGGG  
AGCTGAGTTACGGGAAACAAAGCTCTGTGTGGAGGAGCTCATAGA  
CAATGGGAAACTGCCCTCATGCCATGCTCCGAACCTGTGTAACCTG  
CTGCGGACTGGGATCAGTGCCGCCACCATGAACTCGTTCTCCAGAGAC  
TCCAGCATGAGAAATCTGTGGTCACAGTCGGCAGTTCCATTAGATT  
CCTTAATGCTCATGACTCTATCGATAAACTTGAGGCTCAGCTCAGAAC  
AAAGCATCACCCCTCCCTCCAATACAACATTGATGAAACGGATAATGA  
TTAGAAACTCAAAAAAAATAGGAGGCCTGCCAGTCGGAAGCACCTGTG

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**FIGURE 2C**

CACCCCTGACGCCGGCAGCTCGGGCAGCAATGACTATACTGTGATG  
TATGAGCAGCTCAAGCGGGAGAAACTGAGGCTGCACAAGGCCAGACAAT  
GGAACGTGATGTTGAGTTGCTGGAGCGCTATGCCAGGCCCTGGAAAC  
AGCTGTGAACCTCTCAGTAAAGCACAACCTATCCCCGATGCCCTGGCCGA  
ACCCCTTTGGTCTATCTCACAGATGCAAATGCCGACAGGCTCTGTCCCA  
AGAGTCACTCACAAGGGCCTCCCTGAACATGTGCTGCTGATCGG  
AATGATGGTGGCTCGAGCCGAGCAAGTGACTGTTGCTGTGGGGGA  
GGATTTGTGAAGACACCGGTACTTACAGCCATGAAGGCATCCTGAAGA  
CTGCCATCAAACCTCAGGCTCAAGTCCAGGAGTTAGAAGGCAATGATGA  
GTGGCCCTGGACACTTTGGGAAGTATCTGCTGTCTGGCTGTCAA  
AGGACCCCCATTGACAGGGTCATCCTGTTGGTCAAAGGATGGATACCG  
AGCTCCTGAAAGTAGCCAAACAGATTATCTGGCAGCATGTGAATTCAA  
GTGCCTCTTGTGGTGCCTCCTACAGAAAACACAGTACATATCACCA  
AATTGAAATCCAACGATGTGACGCTCTCAGGCTGCACTGACGGATCC  
TGAAATTGCGAACATGGAGCCTCTCGTCTCCTGGAACATGTGG  
ACAACTAGATAAACTATTCAAGATCCCCCACCAGGAAAGACACAG  
GCACCGTCTCTCCGGCCGCTGGAGGAGAACATCCCTGGTCCCTGGGTC  
CTATTCCCAGCATGGATGGCGCAATATCCGGCTTTCATTCATCCAC  
TTTCCGTGACATGCATGGGAGCGAGATTGCTGATGAGATCTGTTCTG

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**FIGURE 2D**

CCCGCACTGCAGGCCAGAGTGTCCCCCACCGCATCAGTCTCACGCCA  
TTGACCTGCGCTGGGTATCACAGAGGAAGAGACCCGCAGGAACAGACA  
ACTGGAAGTGTGCCTTGGGGAGGTGGAGAACTCACAGCTGTTCGTGGGG  
ATTCTGGGCTCCCGCTATGGCTACATTCCCCCAGCTATGATCTCCTG  
ATCATCCCCACTTCACTGGACCCATGAGTACCCCTCAGGGCGATCCGT  
GACAGAGATGGAGGTGATGCAATTCTGAACCGTGGCCAACGCTCGCAG  
CCTTCGGCCCAAGCTCTCATCTACTTCCGAGATCCTGATTCCTTAGCT  
CTGTGCCAGATGCCTGGAAACCTGACTTTATATCTGAGTCAGAAGAAGC  
TGCACATCGGGTCTCAGAGCTGAAGAGATATCTACACGAACAGAAAGAG  
GTTACCTGTCGCAGCTACTCCTGTGAATGGGGAGGTGTAGCGGCTGGCC  
GGCCCTATACTGGGGCCTGGAGGAGTTGGACAGTTGGTTCTCCAGGA  
TGTGTGGAGCATGATCCAGAAGCAGCACCTGCAGCCTGGGCCAGTTG  
GAGCAGCCAACATCCATCTCAGAAGACGATTGATCCAGACCAGCTTC  
AGCAGCTGAAGACCCCAACGAGTCCGGCACGCCACGCCCTTCAGGA  
TACAGTGCAGCAGCTGTTGCTGCCCATGGAGGCTGAGCCTAGTGACT  
GGGCAGGCAGGACAGGGAAAGACTGCCTTCTGGCATCCCTGTGTCTG  
CCCTGAAGGTCCCTGACCAGCCAATGAGCCCCGTTCGTTCTCCA  
CTTGCAGCAGCCGCCCTGACCAGTGTCTGCTCTAACCTCCTCAGA  
CGCCTCTGTACCCATCTGCGTAAAAACTGGAGAGCTGAGTGCCCTCC

**FIGURE 2E**

CCAGCACTTACAGAGGCCTGGTGTGGAACTGCAGCAGAAGTTGCTCCT  
CAAATTGCTCAGTCGCTGCAGCCTGCTCAGACTTGGTCCTTATCATC  
GATGGGGCAGATAAGTTGGTGGATCGTAATGGGCAGCTGATTCAGACT  
GGATCCCCAAGTCTCTCCGGCGAGTACACCTGGTGCTGAGTGTGTC  
CAGTGACTCAGGCCTGGTGAGACCCCTCAGCAAAGTCAGGGTGCTTAT  
GTGGTGGCCTTGGCTCTTGGTCCCCTTCAAGGGCTCAGCTTGTGA  
GAGAAGAGCTAGCACTGTATGGGAAACGACTGGAGGAGTCACCTTTAA  
CAACCAGATGCGGCTGCTGGCAAAGCAGGGTTCAAGCCTGCCATTG  
TACCTGCACCTGTCACTGACTACCTGAGGCTTCACACTGTATGAAC  
AGGTGTCTGAGAGACTTCGAACCCCTGCCCGCCACTCTCCACTGCTTT  
GCAGCACATCCTGAGCACCTGGAGCAAGAACATGCCATGATGTCCTT  
CCTCAGGCTTGACTGCCCTTGAGGTACACGAAGTGGTCTGACTGTGG  
ACCAGCTACATGCAATCCTGAGCACATGGCTGATCTGCCAAGGAGAC  
TAAGAGCTGGGAAGAAGTGCTGGCTGCCAGTCACAGTGGAAACCCCTTC  
CCCTTGTGTCCATTGCCTACCTTGTCCAGAGTCTACGCAGTTACTAG  
GGGAGGGCCCAGTGGAGCGCCCTGGTGCCCGTCTGCCTCTGATGG  
GCCCTGAGGACAACAATTAAACGTCGCTATGGAAAAGGCTGGGCTA  
GAGAAGACTGCGCATGTCCTCATTGCAGCTCACCTCTGGAAGACGTGTG  
ATCCTGATGCCTCGGGCACCTTCCGAAGTTGCCCTCCTGAGGCTCTGAA

**FIGURE 2F**

AGATTACCTTACCACTGCTCCAGAGCGGGAACATGGTCTCCTGCC  
GAGTTCTTACCAATCTCCATGTGGTGCTGCATATCTGGAAGTGGTC  
TAGTCCCCGACCTCTGGAGGCTCATGTGCTCTATGCTTCTCAAAGCC  
TGAAGCCAACCAGAAGCTCCCAGCGGCAGATGTTGCTGTTCCATACC  
TTCCTGAGACAACAGGCTTCACTCCTTACCCAGTATCCTTGCTCCTGC  
TCCAGCAGGCAGCTAGCCAGCCTGAAGAGTCACCTGTTGCTGCCAGGC  
CCCCCTGCTCACCCAGCGATGGCACGACCAGTCACACTGAAATGGATT  
AATAAACCCCAGACCCTGAAGGGTCAGCAAAGCTTGTCTTGACAATGT  
CCTCATCCCCAACTGCTGTGGCCTTCTCCCCGAATGGCAAAGAGCAGC  
TGTGGGACGCCAGTGGACAATTACCTGTGAACTTGAAACTTGGGACTGG  
CAGGAGGAGAAGGCTGTGGTGAGTGGCTGTGACGGGATTTCCTTTG  
CATTCTTCGGACACTGCCCTTCCCTACTACCTTCGACGGGCACCT  
AGAGCTTGGGACCTGCAACATGGTGTGGTGTTCAGACCAAGGCC  
CACCAAGTACCAAATCACTGGCTGCTGCCTGAGCCCAGACGCCGCTGC  
TGGCCACTGTGTGTTGGGAGGATACCTAAAGCTGTGGACACAGTCG  
AGGACAGCTGGCTTTCAGTACACCCATCAAAGTCTCTCAACTGCGTT  
GCCTTCCACCCAGAGGGCAGGTGGTAGCCACAGGCAGCTGGCTGGCA  
GCATTACCTTCTTCCAGGCAGATGGACTCAAAGTCACCAAGGAACCTAGG  
GGCCCCCGGACCCTCTGTCTGTAGTTGGCATTCAACAAACCTGGGAAG

**FIGURE 2G**

ATTGTGGCTGTGGGCCGGATAGATGGGACAGTGGAGCTGTGGCCTGGC  
AAGAGGGTGCCCGGCTGGCGGCCTTCCCTGCACAGTGTGGCTGTGTCTC  
TGCTGTTCTTTCTTGCATGCTGGAGACCGGTTCCCTGACTGCTGGAGAA  
GATGGCAAGGCTCAGTTATGGTCAGGATTCTGGCCGGCCCAGGGGTT  
GCCTGGGCTCTTCCTCTTCTCCTGCACCTCGGTGGCTCTCAACCC  
AGACGGTGACCAGGTGGCTGTTGGTACCGAGAAGATGGCATTAAACATC  
TACAAGAGATTCTTCAGGTTCCCAGGGCCTCAGCATCAAGAGCTAAATG  
TGGCGGTGTCTGCACTGGTGTGGCTGAGCCCTAGTGTGTTGGTGAGTGG  
TGCAGAAGATGGATCCCTGCATGGTTGGATGTTCAAGGGAGACTCCCTT  
CATTCCCTGTGGCTGTTGTCGAGATAACCAGAACGCCTGTGCTGGACTGG  
CTGCCTCCGGAACTCATGGCTGCTGCCTCAGAGGACTTCACTGTGAG  
ACTGTGGCCCAGACAGCTGCTGACACAGCCACATGTGCATGCGGTAGAG  
TTGCCCTGTTGCTGAACCTCCGGGACACGAGGGCCAGTGTGCTGCT  
GTAGCTTCAGCCCTGATGGAGGCATCTGGCCACAGCTGGCAGGGATCG  
GAATCTCCTTGCTGGACATGAAGATAGCCCAAGCCCTCTCCTGATT  
CACACTTCTCGTCCTGTCATCGTACTGGATCACTGGCTGTGCGTGG  
CCAAAGACAACATCCTGGTCTCCTGCTCGAGTGATGGCTCTGTGGACT  
CTGGAACCCAGAGGCAGGGCAGCAACTGGCCAGTTCTCAGGCCACCAG  
AGTGCCGTGAGCGCCGTGGTTGCTGTGGAGGAACACATTGTATCTGTGA

**FIGURE 2H**

CCGGAGATGGGACCTTGAAAGTGTGGGACCATCAGGGTGTGGAGCTGAC  
CAGCATCCCTGCCATTCCGGACCCATCAGCCAGTGTGCAGCTGCTCTG  
GAGCCCCGCCAGGGGGACAGCCTGGATCAGAGCTTCTGGTGGTGAUTG  
TTGGACTAGATGGGCCACAAAGTTGTGGCATCCCCCTGTTGGTGTGCCA  
AATACGTACTCTCCAGGGACACAGTGGCCCAGTCACAGCAGCTGCTGCT  
TCAGAGGCCTCAGGCCTCCTGCTGACCTCAGATGATAGCTCTGTACAGC  
TCTGGCAGATAACCAAAAGGAAGCAGATGATTACATAACAAACCTAGGAGTT  
TGTGGCCATCACTGCTGTGGCATGGCACCGGATGGTTCTATGGTGGTG  
TCCGGAAATGAAGCCGGGAACGTGACACTGTGGCAGCAAGCCAAGGCTG  
TGGCTACCGCACAGGCTCCAGGCCGCGTCAGTCACCTGATCTGGTACTC  
GGCAAATTCAATTCTCGTTCTCAGTGCTAATGAAAACGTCAGCGAGTGG  
CAAGTGGACTGAGGAAAGGTTCAACGTCCACCAGTTCCAGTCTTCATC  
TGAAGAGAGTTCTGCAGGAGGACTGGGAGTCTTGACAGGTCTGGTCT  
GGCCCTGATGCCAGTCTCTCATCTGATGAAAGAGGATGTGGAATTA  
CTAGAGATGAAGCCTGGTCTATTCCATCTTCTATCTGCAGGAGGTATG  
GAGTACATTCTCAATACTGTGCACCAGCAAGGAGTACGGCTTGTCTA  
CCTGCAGCAGGGGGACTCCGGATTACTTTCTATATTGGAGCAAAAGGAG  
TCAGGGGAGTTGAAGAGATCCTGGACTTCAATCTGAACCTAAATAATC  
CTAATGGGTCCCCAGTATCAATCACTCAGGCCAAACCTGAGTCTGAATC

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FIGURE 2I

ATCCCTTTGTGCGCCACCTCTGATGGGATGCTGTGGAACTTATCTGAA  
TGTACCTCAGAGGGAGAATGGATCGTAGATAACACATTGGCAGAAAAAG  
CAAAAAAAACCTAAAACCTCAGACTCTGGAGACAGAGTTGTCCCCGCACTC  
AGAGTTGGATTTCCATTGATTGCTGGATTGATCCCACAAATTAAAG  
GCACAGCAGTGTAAAAAGATCCACTTGGGCTCTGTCACAGCCCTCCATG  
TGCTTCCGGGATTGCTGGTGACAGCTCGAAGGACAGAGATGTTAAGCT  
GTGGGAGAGACCCAGTATGCAGCTGCTGGCTTGTCCGATGTGAAGGG  
CCAGTGAGCTGTCTGGAACCTGGATGGAGGCCAGCTCTCCCTGCAGC  
TTGCTGTGGAGACACACAAGGAAACTGTATTTCTATCTTGGAA

FIGURE 3A

MEKLHGHVSAHPDILSLENRCLAML PDLQPLEKLHQHVSTHSDILSLKN  
QCLATLPDLKTMEKPHGYVSAHPDILSLENQCLATSDLKTMEKPHGHV  
SAHPDILSLENRCLATLPSLKSTVSASPLFQSLQISHMTQADLYRVNN  
NCLLSEPPSWRAQHFSKGLDLSTCPIALKSISATETAQEATLGRWFDSE  
EKKGAEQMPSYSLSLGEEEEVEDLAVKLTSQDSESHPEPTDHVLQEKK  
MALLSLLCSTLVSEVMNNTSDPTLAAIFEICRELALLEPEFILKASLY  
ARQQLNVRNVANNILAIAAFLPACRPHLRRYFCATVQLPSDWIQAELY  
QSLAEGDKNKLVPLPACLRTAMTDKFAQFDEYQLAKYNPRKHRAKRHPR  
RPPRSPGMEPPFSHRCFPRYIGFLREEQRKFEKAGDTVSEKKNPPRFTL  
KKLVQRLHIHKPAQHVQALLGYRYPNLQLFSRSRLPGPWDSSRAGKRM  
KLSRPETWERELSLRGNKASVWEELIENGKLPFMAMLRNLCNLLRVGIS  
SRHHELIQRLQHGKSVIHSRQFPFRFLNAHDAIDALEAQLRNQALPFP  
SNITLMRRILTRNEKNRPRRRFLCHLSRQQLRMAMRIPVLYEQLKREKL  
RVHKARQWKYDGEMLNRYRQALETAVNLSVKHSLPLLPGRTVLVYLTDA  
NADRLCPKSNPQGPPLNYALLLIGMMITRAEQVDVVLCGGDTLKTAVLK  
AEEGILKTAIKLQAQVQEFDENDGWSLNTFGKYLLSLAGQRVPVDRVIL  
LGQSMDDGMINVAKQLYWQRVNSKCLFVGILLRRVQYLSTDLNPNNDVTL  
SGCTDAILKFIAEHGASHLLEHVGQMDKIFKIPPPPGKTGVQSLRPLEE  
DTPSPLAPVSQQGWRSIRLFISSTFRDMHGERDLLLRSVLPALQARAAP

**FIGURE 3B**

HRISLHGIDLWRGVTEETRRNRQLEVCLGEVENAQLFVGILGSRYGYI  
PPSYNLPDHPFHWAQQYPSGRSVTEMEVMQFLNRNQRLQPSAQALIYF  
RDSSFLSSVPDAWKSDFVSESEEAAXRISELKSYLSRQKGITCRRYPCE  
WGGVAAGR PYVGGLEEF GQLVLQDVWNM IQKLYLQPGALLEQPVSIPDD  
DLVQATFQQLQKPPSPARPRLLQDTVQXLMLPHGRLSLVTGQSGQGKTA  
FLASLVSALQAPDGAKVAXLVFFHFSGARPDQGLALTLLRRRLCTYLRGQ  
LKEPGALPSTYRSLVWELQQRLLPKSAESLHPGQTQVLIIDGADRLVDQ  
NGQLISDWIPKKLPRCVHLVLSVSSDAGLGETLEQSQGAHVLA LGPLEA  
SARARLVREELALYGKRLEESPFFNNQMRLLLVKRESGRPLYLRLVTDHL  
RLFTLYEQVSERLRTL PATVPLLLQHILSTLEKEHGPDVL PQALT ALEV  
TRSGLTVDQLHGVL SVWRTL PKGTSWEEAVAAGNSGDPYPMGPFA CLV  
QSLRSLLGEGPLERPGARLCLPDGPLRTAAKRCYKGKRGLEDTAHILIA  
AQLWKTCDADASGTFRSCPPEALGDL PYHLLQSGNRGLLSKFLTNLHV  
AAHLELGLVSRLL EAHALYASSVPKEEQKLPEADVAVFRTFLRQQASIL  
SQYPRLLPQQAANQPLDSPLCHQASLLSRRWHLQHTLRWLNK PRTMKNQ  
QSSSLSLAVSSSPTAVAFSTNGQRAAVGTANGTVYLLDLRTWQEEKSV  
SGCDGISACLFLSDDTLFLTAFDGLLELWDLQHGCRLQTKAHQYQITG  
CCLSPDCRLLATVCLGGCLKLWDTVRGQLAFQHTYPKSLNCVAFHPEGQ  
VIATGSGWAGSISFFQVDGLKVTKDLGAPGASIRTLAFNVPGGVVAVGRL

**FIGURE 3C**

DSMVELWAWREGARLAAFPAHHGFVAAALFLHAGCQLLTAGEDGKVQVW  
SGSLGRPRGHLGSLSLSPALSVALSPDGDRVAVGYRADGIRIYKISSGS  
QGAQGQALDVAVSALAWLSPKVLVSGAEDGSLQGWALKECSLQSLWLLS  
RFQKPVGLATSQUELLASASEDFTVQLWPRQLLTRPHKAEDFPCGTEL  
GHEGPVSCCSFSTDGGSLATGGRDRSLLCWDVRTPKTPVLIHSFPACH  
DWVTGCAWTKDNLISCSSDGSVGLWDPESGQRLGQFLGHQSAVSAVAA  
VEEHVVSVSRDGTLKVWDHQGVELTSIPAHSGPISHCAAAMEPRAAGQP  
GSELLVVTVGLDGATRLWHPLLVCQTHLLGHSGPVRAAVSETSGML  
TASEDGSVRLWQVPKEADDTCPRSSAAVTAVAWAPDGSMAVSGNQAGE  
LILWQEAKAVATAQAPGHIGALIWSSAHTFFVLSADEKISEWQVKLRKG  
SAPGNLSLHLNRLQEDLGVLTSLDWAPDGHFLILAKADLKLLCMKPGD  
APSEIWSSYTENPMILSTHKEYGIFVLQPKDPGVLSFLRQKESGEFEER  
LNFDINLENPSRTLISITQAKPEESSFLCASSDGILWNLA  
KCSPEGEW  
TTGNMWQKKANTPETQTPGTDPCRESDASMDSDASMDSEPTPHLKTR  
QRRKIHS  
GSVTALHVLPELLVTASKDRDVKLWERPSMQLLGLFRCEGSV  
SCLEPWLGANSTLQLAVGDVQGNVYFLNWE

FIGURE 4A

MEKLCGHVPGHSDILSLKNRCLTMLPDLQPLEKIHGHRSVHSDILSLEN  
QCLTMLSDLQPTERIDGHISVHPDILSLENRCLTMLPDLQPLEKLCGHM  
SSHPDVLSLENQCLATLPTVKSTALTSPPLLQGLHISHTAQADLHSLKTS  
NCLLPELPTKKTPCFSEELDLPPGPRALKSMSATAQVQEVALGQWCVSK  
EKEFQEEESTEVPMPLYSLSLEEEVEAPVLKLTSGDSGFHPETTDQVL  
QEKKMALLTLLCSALASNVNVKDASDLTRASILEVCSALASLEPEFILK  
ASLYARQQLNLRDIANTVLAVAALLPACRPHVRRYYSAIVHLPSDWIQU  
AEFYQSLAEGDEKKLVSLPACLRAAMTDKFAEFDEYQLAKYNPRKHRSK  
RRSRQPPRPQKTERPFSERGKCFPKSLWPLKNEQITFEAAYNAMPEKNR  
LPRFTLKKLVEYLHIHKPAQHVQALLGYRYPATLELFSRSHLPGPWESSION  
RAGQRMKLRRPETWERELSLRGNKASVWEELIDNGKLPFMAMILRNLCNL  
LRTGISARHHELVQLRLQHEKSVVHSRQFPFRFLNAHDSIDKLEAQLRS  
KASPFPSNTTLMKRIMIRNSKKNRRPASRKHLCTLTRRQLRAAMTI PVM  
YEQLKREKRLHKAQWNCDVELLERYRQALETAVNLSVKHNLSPMPGR  
TLLVYLT DANADRLCPKSHSQGPPLNYVLLIGMMVARAEQVTVCLCGG  
GFVKTPVLT ADEGILKTAIKLQAQVQELEGNDEWPLDTFGKYLLSLAVQ  
RTPIDRVILFGQRMDTELLKVAKQIIWQHVNSKCLFVGVL LQKTQYISP  
NLNPNDVTLSGCTDGILKFIAEHGASRLLEHVGQLDKLFKIPPPP GKTQ  
APSLRPLEENI PGPLGPISQHGWRNIRLFISSTFRDMHGERDILLMRSVL

**FIGURE 4B**

PALQARVFPHRISLHAIDLWGITEEEETRRNRQLEVCLGEVENSQLFVG  
ILGSRYGYIPPSYDLPDHPFHWTHEYPSGRSVTEMEVMQFLNRGQRSQ  
PSAQALIYFRDPDFLSSVPDAWKPDFISESEAAHRVSELKRYLHEQKE  
VTCRSYSCEGGVAAGR PYTGGLEEFGQLVLQDVWSMIQKQHLQPGAQL  
EQPTSI SEDDLI QT SFQQLKTPTSPARPRLLQDTVQQLLPHGRLSLVT  
GQAGQGKTAFLASLVSALKV PDQPN EPPFVFFHFAAARP DQCLALNLLR  
RLCTHLRQKLGE LSALPSTYRGLVWE LQKLLLKFAQSLQPAQTLVLII  
DGADKLVDRNGQLISDWIPKSLP RRVHLVLSVSSDSGLGETLQQSQGAY  
VVALGSLVPSSRAQLVREELALYGKRLEESP FNNQMRLLLAKQGSSLPL  
YLHLVTDYLRLFTLYEQVSERLRTLPA TLPLLLQHILSTLEQEHGDVL  
PQALTALEVTRSGLTVDQLHAILSTWLILPKETKSWEEVLAASHSGNPF  
PLCPFAYLVQSLRSLLGEGPVERPGARLCLSDGPLRTTIKRRYKRLGL  
EKTAHVLIAAHLWKTCDPDASGTFRSCPPEALKDLPYHLLQSGNHGLLA  
EFLTNLHVVAAYLEVGLVPDLLEAHVLYASSKPEANQKLPAADVAVFHT  
FLRQQASLLTQYPLLLQQAASQPEESP VCCQAPLTQRWHDQFTLKWI  
NKPQTLKGQQSLSLTMSSSPTAVAFSPNGQRAAVGTASGTIYLLNLKTW  
QEEKAVVSGCDGISSFAFLSDTALFLTTFDGHLELWDLQHGCWVFQTKA  
HQYQITGCCLSPDRLLATVCLGGYLKLWDTVRGQLAFQYTHPKSLNCV  
AFHPEGQVVATGSWAGSITFFQADGLKVTKE LGAPGPSVCSLAFNKGK

FIGURE 4C

IVAVGRIDGTVELWAQEGARLAAPPAQCGCVSAVLFLHAGDRFLTAGE  
DGKAQLWSGFLGRPRGCLGSLPLSPALSVALNPDGDQVAVGYREDGINI  
YKISSGSQGPQHQELNVAVSALVWLSPSVLVSGAEDGSLHGWMFKGDSDL  
HSLWLLSRYQKPVGLAASRELMMAAASEDFTVRLWPRQLLTQPHVHAVE  
LPCCAELRGHEGPVCCSFSPDGGILATAGRDRNLLCWDMKIAQAPLLI  
HTFSSCHRDWITGCAWTKDNILVSCSSDGSVGLWNPEAGQQLGQFSGHQ  
SAVSAVVAVEEHTIVSVSRDGTILKVVWDHQVELTSIPAHSGPISQCAAAL  
EPRPGGQPGSELLVVTVGLDGATKLWHPLLVCQIRTLQGHSGPVTAAAA  
SEASGLLLTSDSSVQLWQIPKEADDSYKPRSSVAITAVAWAPDGSMVV  
SGNEAGELTWQQAKAVATAQAPGRVSHLIWYSANSFFVLSANENVSEW  
QVGLRGSTSTSSSLHLKRLQEDWGVLTGLGLAPDGQSLILMKEDVEL  
LEMKPGSIPSSICRRYGVHSSILCTSKEYGLFYLQQGDSGLLSILEQKE  
SGEFEEILDFNLNLNPNGPVSITQAKPEESSLLCATSDGMLWNLSE  
CTSEGEWIVDNIWQKKAKKPKTQTLETLSPHSELDFSIDCWIDPTNLK  
AQQCCKKIHLGSVTALHVLPGLLVTASKDRDVKLWERPSMQLLGLFRCEG  
PVSCLEPWMEPSSPLQLAVGDTQGNLYFLSWE

## FIGURE 5A

CACCGCGTCCGGGCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGG  
CCCCGGCCACCCCCGCGATGCCGCGCTCCCCGCTGCCGAGCCGTGCG  
CTCCCTGCTGCGCAGCCACTACCGCGAGGTGCTGCCGCTGCCACGTTG  
GTGCGGCGCCTGGGGCCCCAGGGCTGGCGGCTGGTGCAGCGCGGGGACC  
CGGCGGCTTCCGCGCGCTGGTGGCCCAGTGCCTGGTGTGCGTGCCTG  
GGACGCACGGCCGCCCGCCGCCCTCCTCCGCCAGGTGTCCCTGC  
CTGAAGGAGCTGGTGGCCCAGTGCTGCAGAGGCTGTGCGAGCGCGGCG  
CGAAGAACGTGCTGGCCTTCGGCTTCGGCTGCGCTGCTGGACGGGGCCCG  
GGGCCCCCGAGGCCTTCACCACCAAGCGTGCAGCTACCTGCCAAC  
ACGGTGACCGACGCACTGCGGGGAGCGGGCGTGGGGCTGCTGCTGC  
GCCCGTGGCGACGACGTGCTGGTCACCTGCTGGCACGCTGCGCGCT  
CTTTGTGCTGGTGGCTCCAGCTGCGCTACCAGGTGTGCGGGCCGCG  
CTGTACCAGCTGGCGCTGCCACTCAGGCCGGCCCCGCCACACGCTA  
GTGGACCCCGAAGCGTCTGGATGCGAACGGCCTGGAACCATAGCGT  
CAGGGAGGCCGGGTCCCCCTGGCCTGCCAGCCCCGGTGCAGGGAG  
CGCGGGGCAGTGCCAGCCGAAGTCTGCCGTTGCCAACAGAGGCCAGGC  
GTGGCGCTGCCCTGAGCCGGAGCGGACGCCGTTGGCAGGGTCCTG  
GGCCCACCCGGGCAGGACGCGTGGACCGAGTGACCGTGGTTCTGTGTG  
GTGTCACCTGCCAGACCCGCCGAAGAACGCCACCTTTGGAGGGTGC

**FIGURE 5B**

TCTCTGGCACGCCACTCCCACCCATCCGTGGCCAGCACCGACACCACGC  
GGGCCCCCATCCACATCGCGGCCACCACGTCCCTGGACACGCCTTGT  
CCCCCGGTGTACGCCGAGACCAAGCAGCTTCCTACTCCTCAGGCGACA  
AGGAGCAGCTGCCCTCCTACTCAGCTCTGAGGCCAGCCT  
GAATGGCGCTCGGAGGCTCGTGGAGACCATCTTCTGGGTTCCAGGCC  
TGGATGCCAGGGACTCCCCGCAGGTTGCCCGCCTGCCAGCGCTACT  
GGCAAATGCCGGCCCTGTTCTGGAGCTGCTGGAAACCACGCGCAGTG  
CCCCTACGGGTGCTCCTCAAGACGCAGTGCCTGGAGCTGCC  
ACCCCAGCAGCCGGTGTCTGTGCCCGGAGAAGCCCCAGGGCTCTGTGG  
CGGCCCGAGGAGGAGGACACAGACCCCCGTCGCCTGGTGCAGCTGCT  
CCGCCAGCACAGCAGCCCTGGCAGGTGTACGGCTCGTGC  
CTGCCGGCTGGTGCCCGAGGCCTCTGGGCTCCAGGCACAACGAAC  
GCCGCTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGAAGCATGC  
CAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGC  
GCTTGGCTGCGCAGGAGCCAGGGTTGGCTGTGTTCCGGCCGCAGAGC  
ACCGTCTCGGTGAGGAGATCCTGCCAAGTCCTGCAGTGGCTGATGAG  
TGTGTACGTGAGCTGCTCAGGTCTTCTTATGTCACGGAGACC  
ACGTTCAAAAGAACAGGCTCTTCTACCGGAAGAGTGTCTGGAGCA  
AGTTGCAAAGCATTGGAATCAGACAGCACTGAAGAGGGTGCAGCTGCG

**FIGURE 5C**

GGAGCTGTCGGAAGCAGAGGTCAAGGCAGCATCGGGAAAGCCAGGCCGCC  
CTGCTGACGTCCAGACTCCGCTTCATCCCCAAGCCTGACGGGCTGCGGC  
CGATTGTGAACATGGACTACGTCGTGGGAGCCAGAACGTTCCGCAGAGA  
AAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCAGTGTTCAGCGTG  
CTCAACTACGAGCGGGCGCGCGCCCCGGCCTCCTGGCGCCTGTGC  
TGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTCGTGC  
GCGGGCCCAGGACCCGCCCTGAGCTGTACTTTGTCAAGGTGGATGTG  
ACGGGCGCGTACGACACCATCCCCCAGGACAGGCTACGGAGGTAC  
CCAGCATCATCAAACCCAGAACACGTACTGCGTGC  
GGTCCAGAAGGCCGCCATGGGCACGTCCGCAAGGC  
TTCAAGAGCAC  
GTCTCTACCTTGACAGACCTCCAGCCGTACATGCGACAGTTC  
CGTGGCTC  
ACCTGCAGGAGACCAGCCGCTGAGGGATGCC  
CTCGTAC  
CTCCTCCCTGAATGAGGCCAGCAGTGGCCTCTCGAC  
GTCTTCC  
ACGTCCAG  
TTCATGTGCCACCACGCCGTGCGCATCAGGGCAAGT  
CCTACGTCCAGT  
GCCAGGGATCCCGCAGGGCTCCATCCTCTCCAC  
GTGCTACGGCGACATGGAGAAC  
AAGCTGTTGCGGGATT  
CGGC  
GGGCTGCTCCTGCGTTGGATGATTCTTGTGGT  
GACACCTCACC  
TCACCCACGCGAAAACCTCCTCAGGAC  
CTGGTCCGAGGTGTCC  
GTATGGCTGCGTGGTGA  
ACTTGC  
GGAAGACAGTGGTGA  
ACTTCC  
CTGTA

**FIGURE 5D**

GAAGACGAGGCCCTGGGTGGCACGGCTTTGTTCAAGATGCCGGCCCACG  
GCCTAT

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**FIGURE 6A**

HASGQRCVLLRTWEALAPATPAMPRAPRCRAVRSLLRSHYREVLPLATF  
VRRLGPQGWRLVQRGDPAAFRALVAQCLVCVPWDARPPAAPSFRQVSC  
LKELVARVLQRLCERGAKNVLAFGFALLDGARGGPPEAFTTSVRSYLPN  
TVTDALRGSGAWGLLRRVGDDVLVHLLARCALFVLVAPSCAYQVCGPP  
LYQLGAATQARPPP HASGPRRLGCERAWNHSVREAGVPLGLPAPGARR  
RGGSASRSLPLPKRPRRGAAPEPERTPVGQGSWAHPGRTRGPSDRGFCV  
VSPARPAEEATSLEGALSGTRHSHPSVGRQHHAGPPSTSRRPPRWDTPC  
PPVYAETKHFLYSSGDKEQLRPSFLLSSLRPSLTGARRLVETIFLGSRP  
WMPGTPRRLPRLPQRYWQMRPLFLELLGNHAQCPYGVLLKTHCPLRAAV  
TPAAGVCAREKPQGSVAAPEEEEDTDPRRLVQLLRQHSSPWQVYGFVRAC  
LRLVPPGLWGSRHNERFLRNTKKFISLGKHAKLSLQELTWKMSVRDC  
AWLRRSPGVGCVPAAEHRLREEILAKFLHWLMSVYVVELLRSFFYVTET  
TFQKNRLFFYRKSVWSKLQSIGIRQHLKRVQLRELSEAEVRQHREARPA  
LLTSRLRFIPKPDGLRPIVNMDYVVGARTFRREKRAERLTSRVKALFSV  
LNYERARRPGLLGASVLGLDDIHRAWRTFVLRVRAQDPPPELYFVKVDV  
TGAYDTIPQDRLTEVIASIICKPQNTYCVRRYAVVQKAAGHVRKAFKSH  
VSTLTDLQPYMRQFVAHLQETSPLRDAVVIEQSSSLNEASSGLFDVFLR  
FMCHHAVRIRGKSYVOCQGIPOGSILSTLLCSLCYGD MENKLFAGIRRD

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**FIGURE 6B**

GLLLRLVDDFLLVTPHLTHAKTFLRTLVRGVPEYGCVNLRKTVVNFPV  
EDEALGGTAFVQMPAHGL

FIGURE 7

TCCCCCTGGTGC GG C CTGCTGGATA C CCGGAC C CTGGAGGTGCAGAGCGACT  
ACTCCAGCTATGCCCGGACCTCCATCAGAGCCAGTCTCACCTCAACCGCGGCT  
TCAAGGCTGGGAGGAACATGCGTCGCAA ACTCTTGGGTCTTGC GG CTGAAGT  
GTCACAGCCTGTTCTGGATTG CAGGTGAACAGCCTCCAGACGGTGTGCACCA  
ACATCTACAAGATCCTCCTGCTGCAGGCGTACAGGTTCACGCATGTGTGCTGC  
AGCTCCCATT CATCAGCAAGTTGGAAGAACCCCACATTTCCTGCGCGTCA  
TCTCTGACACGGCCTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGA  
TGT CGCTGGGGCCAAGGGCGCCGCCCTCTGCCCTCCGAGGCCGTGCAGT  
GGCTGTGCCACCAAGCATT CCTGCTCAAGCTGACTCGACACCGTGTACCTACG  
TGCCACTCCTGGGTCACTCAGGACAGCCCAGACGCAGCTGAGTCGGAAGCTCC  
CGGGGACGACGCTGACTGCCCTGGAGGCCGCAGCCAACCCGGCACTGCCCTCAG  
ACTTCAAGACCATCCTGGACTGATGCCACCCGCCACAGCCAGGCCAGAGCA  
GACACCAGCAGCCCTGTCACGCCGGCTCTACGTCCCAGGGAGGGAGGGCGGC  
CCACACCCAGGCCGCACCGCTGGAGTCTGAGGCCCTGAGTGAGTGTGGCCG  
AGGCCTGCATGTCCGGCTGAAGGCTGAGTGTCCGGCTGAGGCCCTGAGCGAGTGT  
CCAGCCAAGGGCTGAGTGTCCAGCACACCTGCCGTCTCACTTCCCCACAGGCT  
GGCGCTCGGCTCCACCCAGGGCCAGCTTCTCACCCAGGAGGCCGGCTCCA  
CTCCCCACATAGGAATAGTCCATCCCCCTGAT

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FIGURE 8A

CCACCGCGTCCGGGCAGCGCTGCGTCCTGCTGCGCACGTGGGAAGCCCTGGCCCC  
GGCCACCCCCCGCGATGCCGCGCGCTCCCCGCTGCCGAGCCGTGCGCTCCCTGCT  
GCGCAGCCACTACCGCGAGGTGCTGCCGCTGGCCACGTTCGTGCGCGCCTGGG  
GCCCGAGGGCTGGCGGCTGGTGCAGCGCGGGACCCGGCGCTTCCGCGCGCT  
GGTGGCCCAGTGCCTGGTGTGCGTGCCCTGGGACGCACGGCCGCCCCCGCCGC  
CCCCTCCTTCCGCCAGGTGTCCTGCCCTGAAGGAGCTGGTGGCCCGAGTGCTGCA  
GAGGCTGTGCGAGCGCGGCGCGAAGAACGTGCTGGCCTTCGGCTTCGCGCTGCT  
GGACGGGGCCCGCGGGGGCCCCCGAGGCCTTACCAACCAGCGTGCAGCAGCTA  
CCTGCCAACACGGTGACCGACGCACTGCCGGGGAGCGGGCGTGGGGCTGCT  
GCTGCGCCGCGTGGCGACGACGTGCTGGTCACCTGCTGGCACGCTGCGCGCT  
CTTGCTGGTGGCTCCCAGCTGCGCCTACCAGGTGTGCGGGCCGCGCTGTA  
CCAGCTCGCGCTGCCACTCAGGCCGGCCCCGCCACACGCTAGTGGACCCCG  
AAGCGTCTGGATGCGAACGGGCCTGGAACCATAGCGTCAGGGAGGCCGGGT  
CCCCCTGGGCCTGCCAGCCCCGGGTGCGAGGAGGCCGGCGAGTGCCAGCCG  
AAGTCTGCCGTTGCCAAGAGGCCAGGCAGGCGTGGCGCTGCCCTGAGCCGGAGCG  
GACGCCGTTGGCAGGGCTGGGCCACCCGGCAGGACGCGTGGACCGAG  
TGACCGTGGTTCTGTGTGGTGTACCTGCCAGACCCGCCAAGAACGCCACCTC  
TTTGGAGGGTGCCTCTGGCACGCCACTCCACCCATCCGTGGCCGCA  
GCACCAACGCCGGCCCCCATCCACATGCCGGCACCACGTCCTGGGACACGCC  
TTGTCCCCGGTGTACGCCGAGACCAAGCAACTTCCTCTACTCCTCAGGCGACAA

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**FIGURE 8B**

GGAGCAGCTGCGGCCCTCCTACTCAGCTCTGAGGCCAGCCTGACTGG  
CGCTCGGAGGCTCGTGGAGACCATCTTCTGGGTTCCAGGCCCTGGATGCCAGG  
GAATCCCCGCAGGTTGCCCGCCTGCCAGCGCTACTGGCAAATGCCAGG  
GTTTCTGGAGCTGCTGGGAACCACCGCGAGTGCCTACGGGTGCTCCTCAA  
GACGCACTGCCCGCTGCGAGCTGCAGTCACCCAGCAGCCGGTGTCTGCCCG  
GGAGAAGCCCCAGGGCTCTGTGGCGCCCCCGAGGAGGAGCACAGACCCCCG  
TCGCCTGGTGCAGCTGCTCCGCCAGCACAGCAGCCCTGGCAGGTGTACGGCTT  
CGTGCAGGCCCTGCCTGCGCCGGCTGGTGCCTCAGGCCTCTGGGCTCCAGGCA  
CAACGAACGCCGCTCCTCAGGAACACCAAGAAGTTCATCTCCCTGGGAAGCA  
TGCCAAGCTCTCGCTGCAGGAGCTGACGTGGAAGATGAGCGTGCGGACTGCGC  
TTGGCTGCGCAGGAGCCAGGGTTGGCTGTGTTCCGGCCGCAGAGCACCGTCT  
GCGTGAGGAGATCCTGGCCAAGTTCCCTGCACTGGCTGATGAGTGTACGTCGT  
CGAGCTGCTCAGGTCTTCTTATGTCACGGAGACCACGTTAAAAGAACAG  
GCTCTTTCTACCGGAAGAGTGTCTGGAGCAAGTGCAAAGCATTGGAATCAG  
ACAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGCGGAAGCAGAGGTCAAGCA  
GCATCGGAAAGCCAGGCCCTGCTGACGTCCAGACTCCGCTTCATCCCCAA  
GCCTGACGGCTGCGCCGATTGTGAACATGGACTACGTCGTGGAGCCAGAAC  
GTTCCGCAGAGAAAAGAGGGCCGAGCGTCTCACCTCGAGGGTGAAGGCAGTGT  
CAGCGTGCTCAACTACGAGCGGGCGCGCCCGGCCTCTGGCGCCTCTGT  
GCTGGGCCTGGACGATATCCACAGGGCCTGGCGCACCTCGTGTGCGTGTGCG

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**FIGURE 8C**

GGCC CAGG ACCCGCCG CCGCTGAGCTGTACTTGTCAAGGTGGATGTGACGGGC  
GTACGACACC ATCCCCCAGGACAGGCTCACGGAGGT CATGCCAGC ATCATCAA  
ACCC CAGAACACGTACTGCGTGC GTCGGTATGCCGTGGTCCAGAAGGCCGCCA  
TGGGCACGTCCGCAAGGCCTTCAAGAGCCACGTCTACCTTGACAGACCTCCA  
GCCGTACATGCGACAGTTCGTGGCTCACCTGCAGGAGACCAGCCCGCTGAGGG  
TGCCGTCGT CATCGAGCAGAGCTCCTCCCTGAATGAGGCCAGCAGTGGCCTCTT  
CGACGTCTCCTACGCTTCA TGTGCCACCACGCCGTGCGCATCAGGGCAAGTC  
CTACGTCCAGTGC CAGGGATCCCGCAGGGCTCCATCCTCTCCACGCTGCTCTG  
CAGCCTGTGCTACGGCGACATGGAGAACAAAGCTGTTGCCGGATT CGGCC  
CGGGCTGCTCCTGC GTTTGGTGGATGATTCTTGTGGT GACACCTCACCTCAC  
CCACCGC AAAACCTCCTCAGGACCC TGGTCCGAGGTGTCCCTGAGTATGGCTG  
CGTGGTGA ACTTGC GGAAAGACAGTGGTGA ACTTCCCTGTAGAACAGCAGGCC  
GGGTGGCACGGCTTTGTTCA GATGCCGGCCACGCCCTATTCCCTGGTGC  
CCTGCTGCTGGATACCGGACCC TGGAGGTGCAGAGCGACTACTCCAGCTATGC  
CCGGACCTCCATCAGAGCCAGTCTCACCTCAACCGCGCTCAAGGCTGGAG  
GAACATGCGTCGCAA ACTCTTGGGTCTTGC GGCTGAAGTGTACAGCCTGTT  
TCTGGATTG CAGGTGAACAGCCTCCAGACGGTGTGCACCAACATCTACAAGAT  
CCTCCTGCTGCAGGCGTACAGGTTCACGCATGTGTGCTGCAGCTCCATTCA  
TCAGCAAGTTGGAAGAACCCACATTTCTGC CGCTCATCTTGACACGGC  
CTCCCTCTGCTACTCCATCCTGAAAGCCAAGAACGCAGGGATGTCGCTGGGGC

**FIGURE 8D**

CAAGGGCGCCGCCGGCCCTCTGCCCTCCGAGGCCGTGCAGTGGCTGTGCCACCA  
AGCATTCCCTGCTCAAGCTGACTCGACACCGTGTACCTACGTGCCACTCCTGGG  
GTCACTCAGGACAGCCCAGACGCAGCTGAGTCGGAAGCTCCGGGACGACGCT  
GAUTGCCCTGGAGGCCGCAGCCAACCCGGCACTGCCCTCAGACTTCAAGACCAT  
CCTGGACTGATGGCCACCCGCCACAGCCAGGCCGAGAGCAGACACCAGCAGCC  
CTGTCACGCCGGCTCTACGTCCCAGGGAGGGAGGGCGGCCACACCCAGGCC  
CGCACCGCTGGAGTCTGAGGCCTGAGTGAGTGTTGGCCGAGGCCTGCATGTC  
CGGCTGAAGGCTGAGTGTCCGGCTGAGGCCTGAGCGAGTGTCCAGCCAAGGGCT  
GAGTGTCCAGCACACCTGCCGTCTTCACTTCCCCACAGGCTGGCGCTGGCTCC  
ACCCCAAGGGCCAGCTTTCCCTCACCAAGGAGGCCGGCTCCACTCCCCACATAGG  
AATAGTCCATCCCCCTGAT

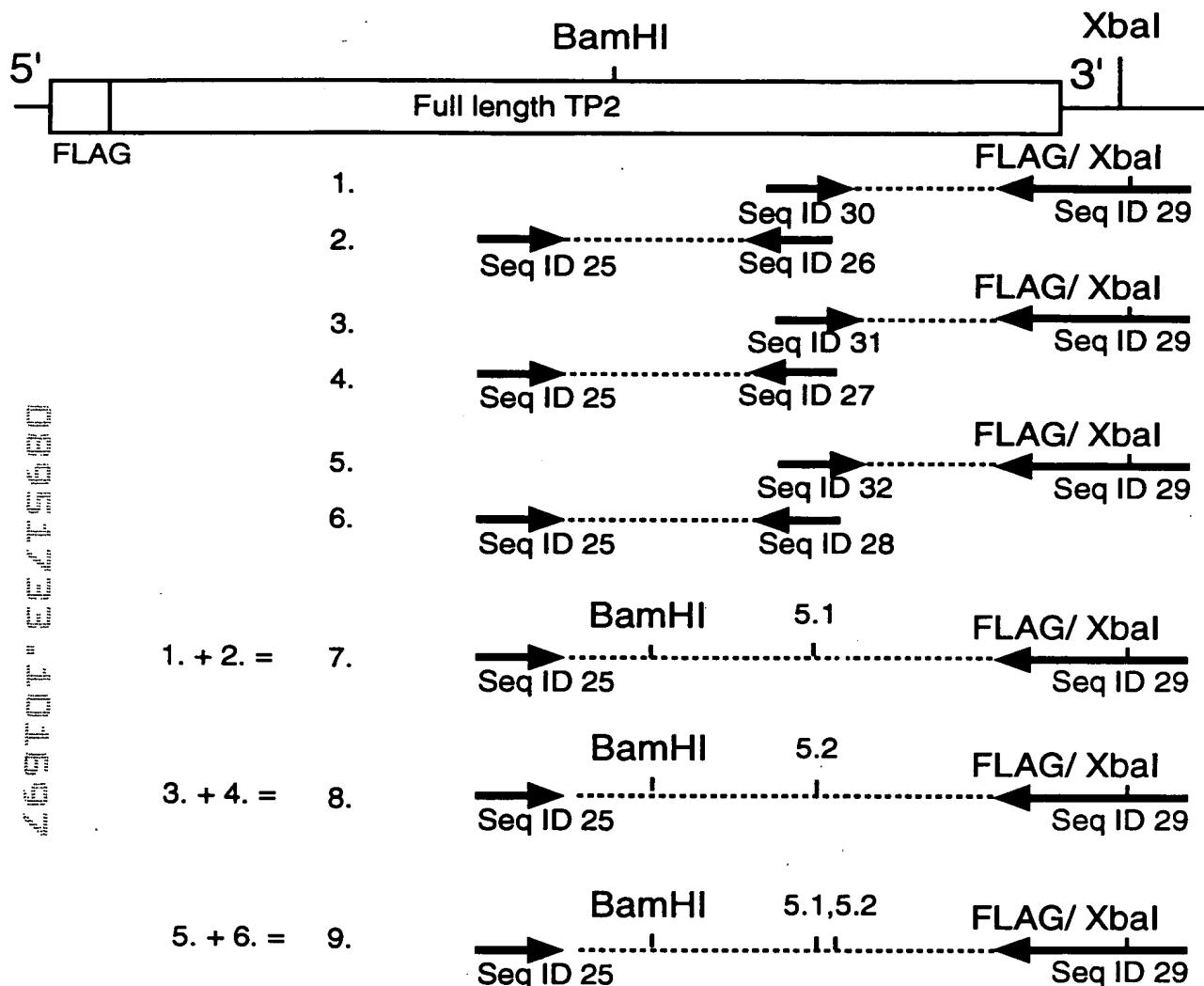
FIGURE 9A

HASGQRCVLLRTWEALAPATPAMPRAPRCRAVRSSLRSHYREVLPLATF  
VRRLGPQGWRLVQRGDPAAFRALVAQCLVCVPWDARPPAAPSFRQVSC  
LKELVARVLQRLCERGAKNVLAFGFALLDGARGGPPEAFTTSVRSYLPN  
TVTDALRGSGAWGLLRRVGDDVLVHLLARCALFVLVAPSCAYQVCGPP  
LYQLGAATQARPPP HASGPRRLGCERAWNHSVREAGVPLGLPAPGARR  
RGGSASRSLPLPKRPRRGAAPEPERTPVGQGSWAHPGRTRGPSDRGFCV  
VSPARPAEEATSLEGALSGTRHSHPSVGRQHHAGPPSTSRRPPPWDTPC  
PPVYAETKHFLYSSGDKEQLRPSFLLSSLRPSLTGARRLVETIFLGSRP  
WMPGTPRRLPRLPQRYWQMRPLFLELLGNHAQCPYGVLLKTHCPLRAAV  
TPAAGVCAREKPQGSVAAPEEEEDTPRRLVQLLRQHSSPWQVYGFVRAC  
LRRLVPPGLWGSRHNRFLRNTKKFISLGKHAKLSSLQELTWKMSVRDC  
AWLRRSPGVGCVPAAEHRLREEILAKFLHWLMSVYVVELRSFFYVTET  
TFQKNRLFFYRKSVWSKLQSIGIRQHLKRVQLRELSEAEVROHREARPA  
LLTSRLRFIPKPDGLRPIVNMDYVVGARTFRREKRAERLTSRVKALFSV  
LNYERARRPGLLGASVILGLDDIHRAWRTFVLRVRAQDPPPELYFVKVDV  
TGAYDTIPQDRLTEVIASIICKPQNTYCVRRYAVVQKAAGHVRKAFKSH  
VSTLTDLQPYMRQFVAHLQETSPLRDAVIEQSSSLNEASSGLFDVFLR  
FMCHHAVRIRGKSYVQCQGIPQGSILSTLLCSLCYGD MENKL FAGIRRD  
GLLLRLVDDFLLVTPHLTHAKTFLRTLVRGVPEYGCVVNLRKTVVNFV

**FIGURE 9B**

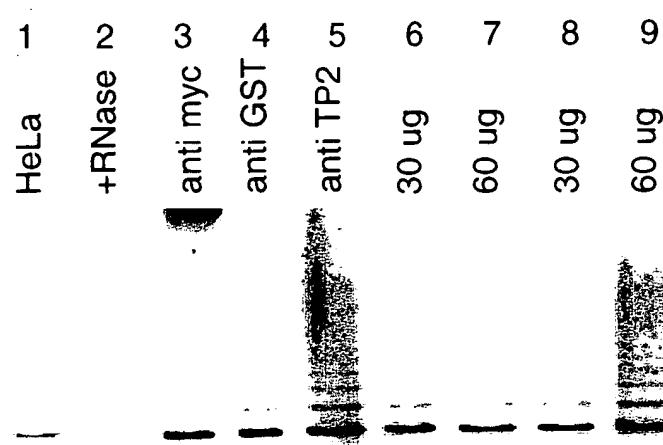
EDEALGGTAFVQMPAHGLFPWCGLLLDTRTLEVQSDYSSYARTSIRASL  
TFNRGFKAGRNMRRKLFGVRLKCHSLFLDLQVNSLQTVCTNIYKILL  
QAYRFHACVLQLPFHQQVWKNPFFLRVISDTASLCYSILKAKNAGMSL  
GAKGAAGPLPSEAVQWLCHQAFLLKLTRHRVTYVPLL GSLRTAQTQLSR  
KLPGTTLT ALEAAANPALPSDFKTILD

**FIG. 10**

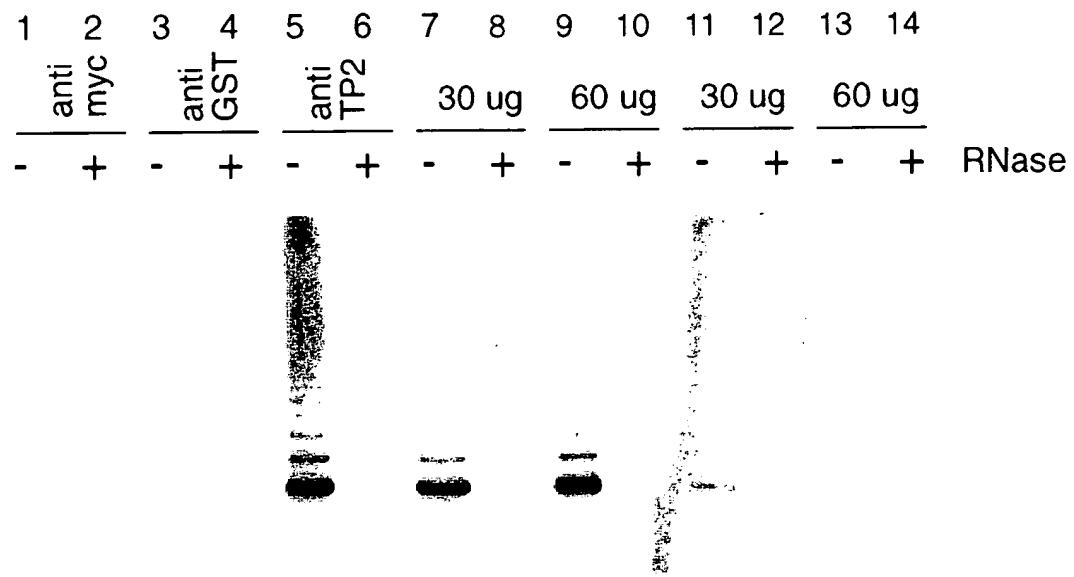


**FIG. 11**

**A**



**B**

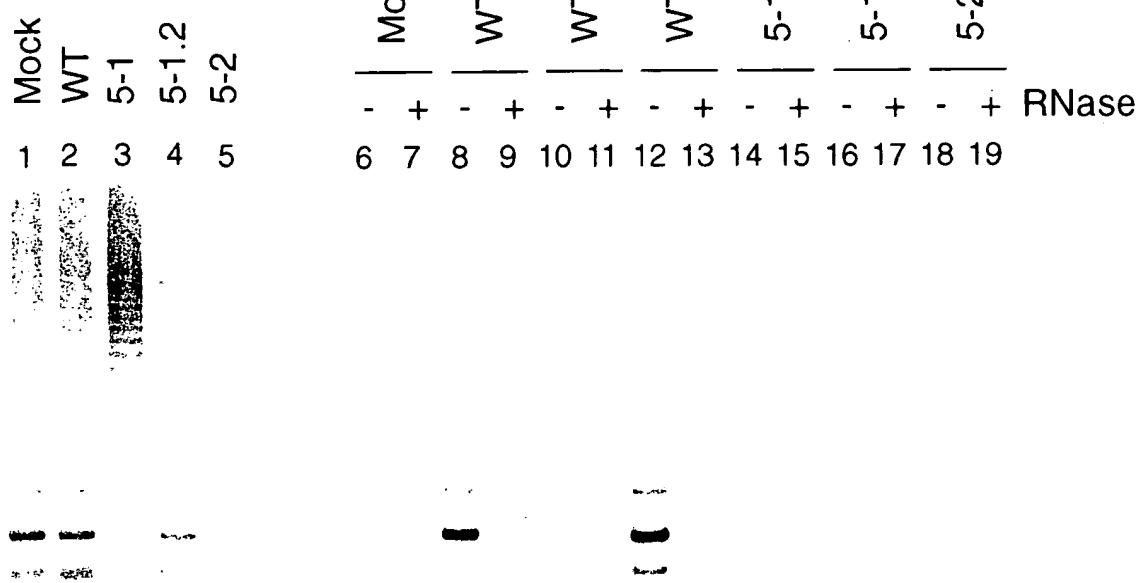


**C**

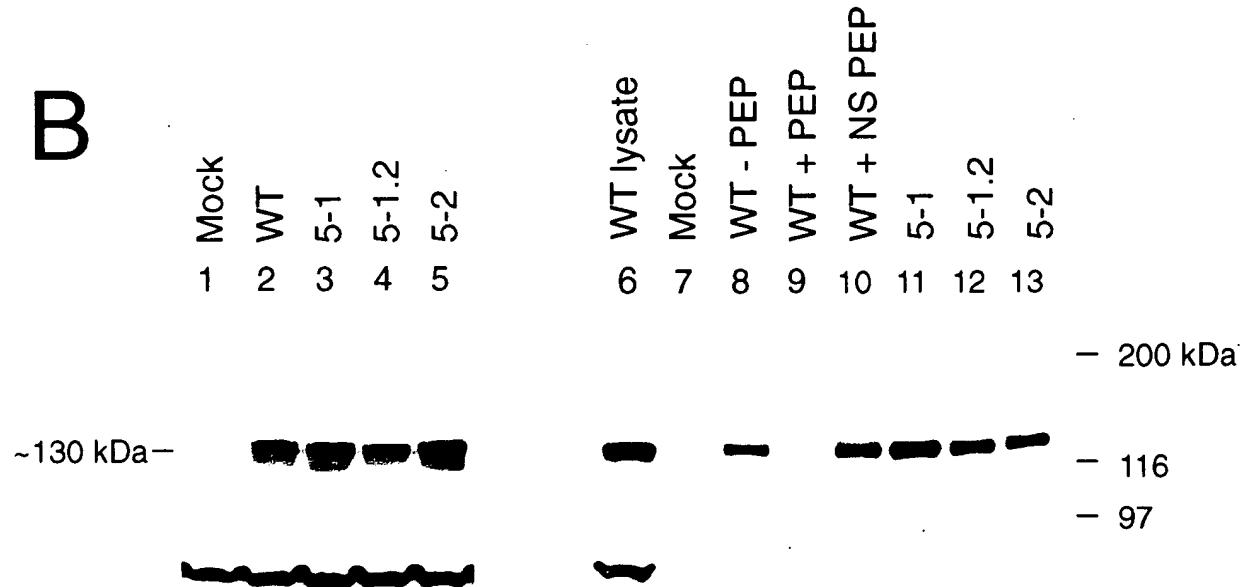


**FIG. 12**

**A**

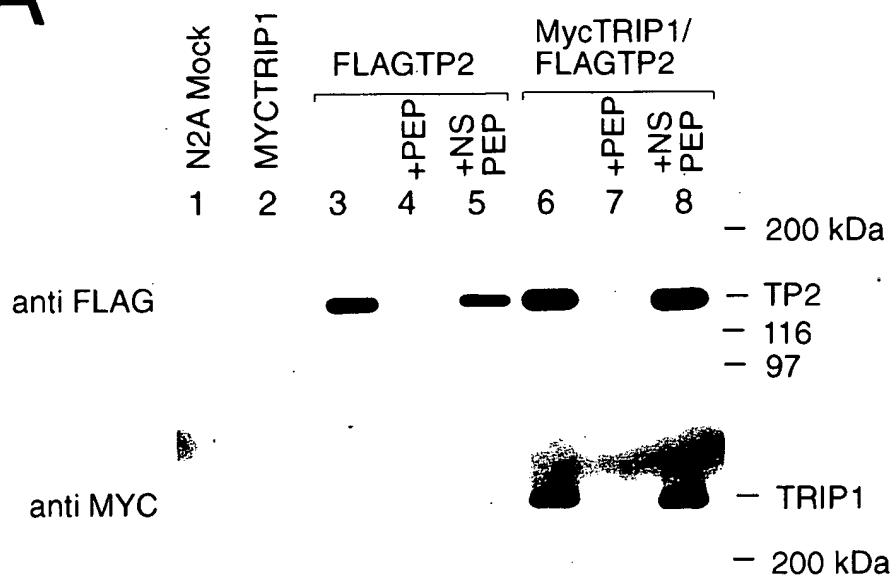


**B**

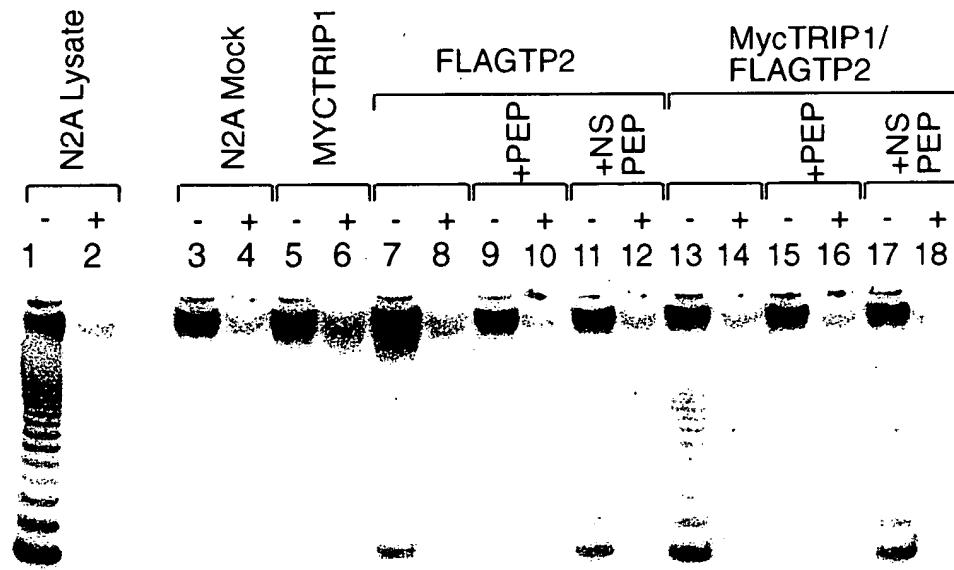


**FIG. 13**

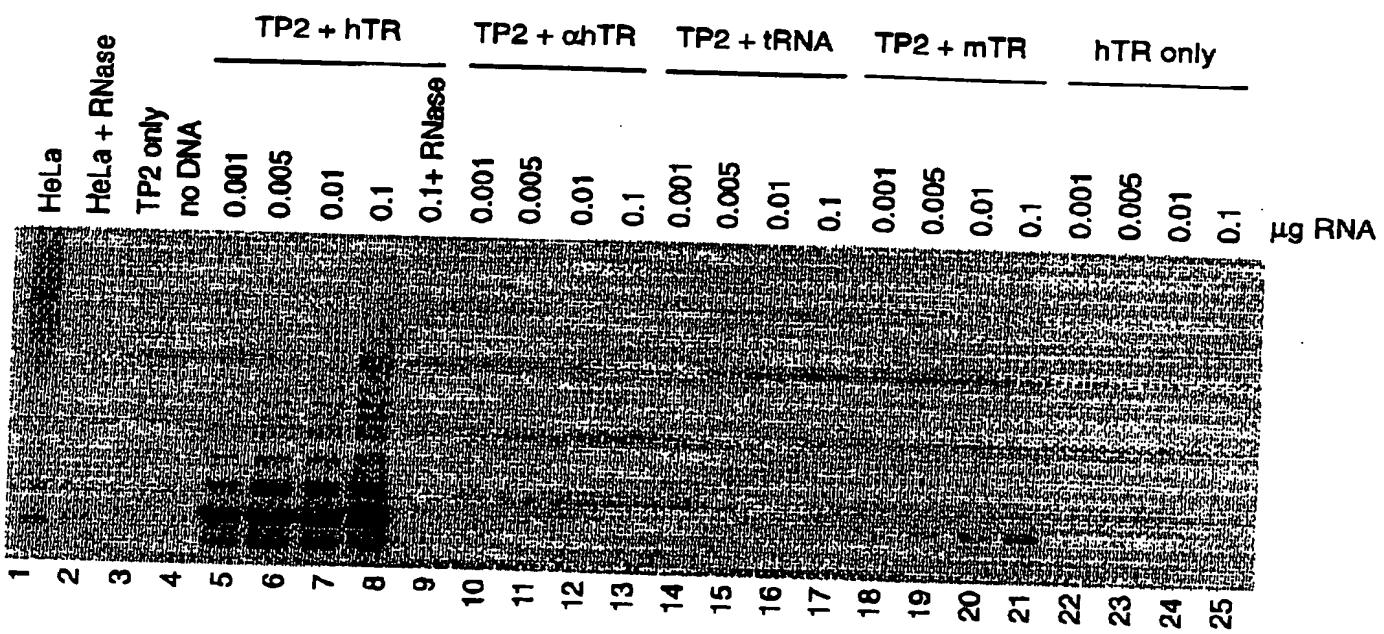
**A**



**B**

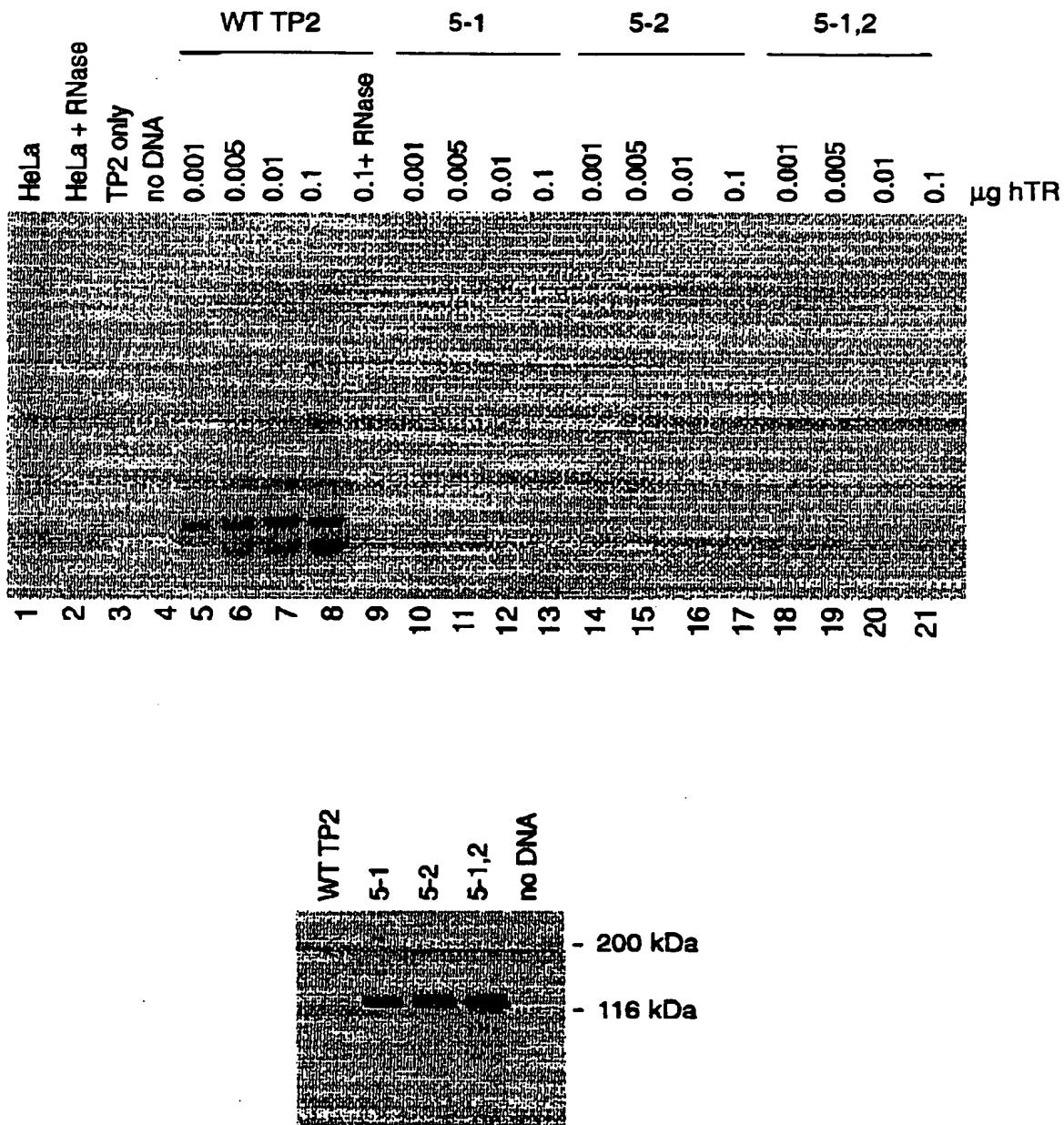


**FIG. 14**



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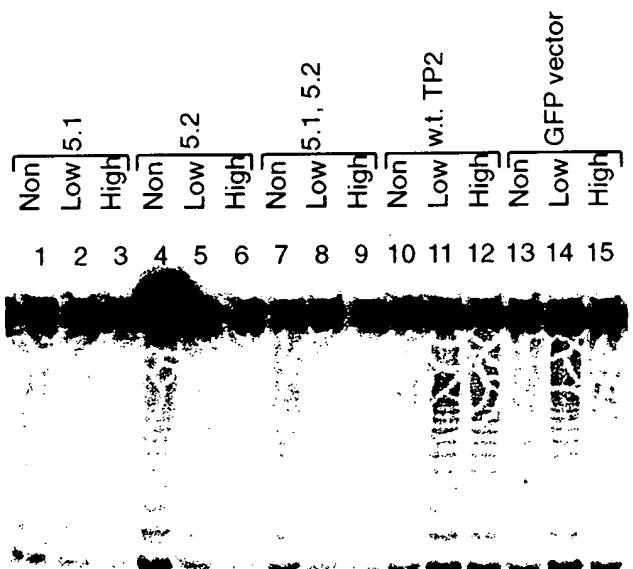
FIG. 15



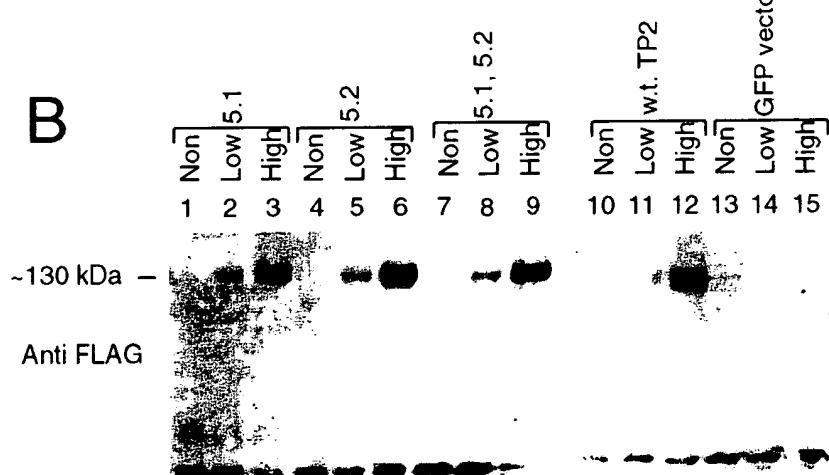
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**FIG. 16**

**A**

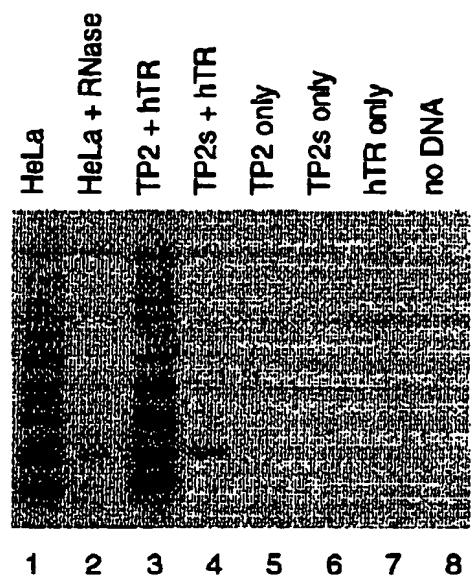


**B**

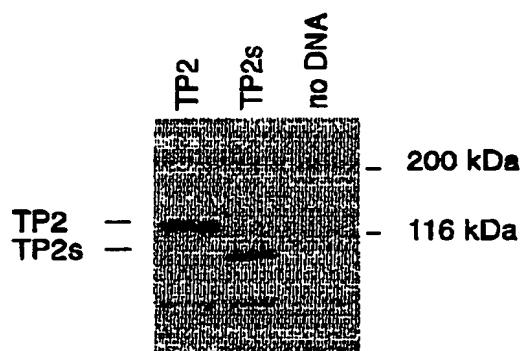


**FIG. 17**

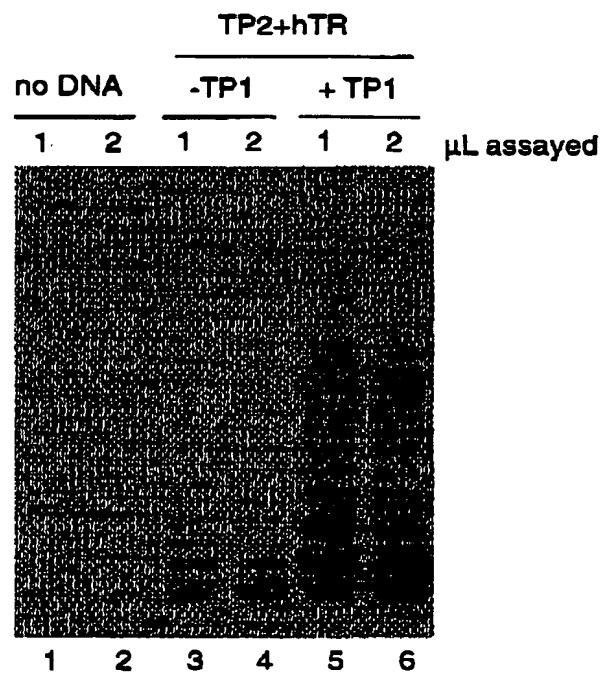
**A**



**B**



**FIG. 18**



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